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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,154	03/28/2001	Hideo Nakamura	M1596-235	3953

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EXAMINER

NGUYEN, LUONG TRUNG

ART UNIT

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2622

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/820,154	Applicant(s) NAKAMURA ET AL.	
	Examiner LUONG T. NGUYEN	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-18 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-18 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 4-18, 22-27 filed on 2/23/2006 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-15, 22-24, 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US 5,926,218) in view of StAlfors (US 4,978,983).

Regarding claim 22, Smith discloses an image capturing apparatus comprising:

a first image capturing device (image sensor 22, figure 1, Column 2, Lines 60-67,

Column 4, Lines 55-58);

said first image capturing device having a first characteristic (full frame high resolution,

Column 2, Lines 60-67);

a second image capturing device (image sensor 18, figure 1, Column 2, Lines 50-60);

said second image capturing device having a second characteristic (low resolution,

Column 2, Lines 50-60, Column 4, lines 59-67);

Art Unit: 2622

said first and second characteristics being different (different sizes and number of pixels, Column 2, Lines 47-67);

a recording means for recording image data (image memory 40, Figure 1, Column 3, Lines 25-30, 52-65);

a processing means (microprocessor 52 and image data multiplexer 38, Figure 1, Column 4, Lines 7-67) for processing data of images captured by said first image capturing device and data of images captured by said second image capturing device in such a manner that the two types of images (still image and motion image) are treated as individual images that are independent of each other;

a first optical system (imaging optical section 20, Figure 1, Column 3, Lines 5-10; Column 4, Lines 50-53) and a second optical system (viewfinder optical section 16, Figure 1, Column 2, Lines 50-55; Column 4, Lines 45-47);

said first optical system supplying first image data from the first subject image light to said first image capturing device (imaging optical section 20 supplies image data to the image sensor 22, Figure 1, Column 2, Line 65 – Column 3, Line 2);

said second optical system supplying second image data from the second subject image light to said second image capturing device (viewfinder optical section 16 supplies image data to the image sensor 18, Figure 1, Column 2, Lines 57-65).

Smith fails to specifically disclose said processing means correcting a parallax between said first optical system and said second optical system. However, StAlfors teaches a composite camera with automatic parallax correction, which discloses a paired photo camera 1 (film camera) and electronic camera 2 with parallel optical system in which the field of view of the

Art Unit: 2622

electronic camera 2 is shown to overlap the field of view of the photo camera 1. The output of the electronic camera 2 is processed so that only that portion of the electronically captured image, which are located within border 32, corresponding to the film image (captured by photo camera 1) is transmitted to display 40, thereby correcting on the display for parallax between the parallel optical system (Figures 3-6, see abstract, Column 3, Lines 14-20, Column 4, Lines 10-27; Column 4, Line 65 - Column 6, Line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Smith by the teaching of StAlfors in order to obtain a camera which corrects parallax between the parallel optical system (Column 1, Lines 5-10).

Regarding claims 4, 5, 6, Smith discloses said first image capturing device is used for still image recording (still image obtained from image sensor 22, Figure 1, Column 4, Lines 55-58), and said second image capturing device is used for capturing moving images (image sensor 18 provides live resolution (motion-capable resolution), Column 2, Lines 50-60); said second image capturing device also providing preliminary measurement for use in still image recording (the low resolution image sensor 18 is able to provide a user-selected zooming image through imaging optical section 20, Figure 1, Column 6, Lines 34-55).

Regarding claims 7, 8, 9, 10, 11, 12, Smith discloses said first and second optical systems for directing light representing an image of a subject to said first and said second image capturing device (Figure 1); said recording means (image memory 40, Figure 1, Column 3, Lines 25-33) for recording data of images captured by said first image capturing device as still images

Art Unit: 2622

and for recording data of images captured by said second image capturing device as moving images; and a display means (display module 50, Figure 1, Column 3, Lines 35-51) for displaying image data.

Regarding claims 13-15, Smith discloses wherein said first image capturing device is a CCD solid image capturing device of the full-frame transfer type (image sensor 22 is a full frame high resolution CCD, Column 2, Lines 60-67).

Regarding claims 23, Smith discloses an image capturing apparatus comprising:

a first image capturing device (image sensor 22, figure 1, Column 2, Lines 60-67, Column 4, Lines 55-58);

a second image capturing device (image sensor 18, figure 1, Column 2, Lines 50-60) having a second characteristic (low resolution, Column 2, Lines 50-60, Column 4, lines 59-67) different from those of said first image capturing device (image sensor 22 is a full frame high resolution image sensor, Column 2, Lines 60-67);

a recording means for recording image data (image memory 40, Figure 1, Column 3, Lines 25-30, 52-65);

a processing means (microprocessor 52 and image data multiplexer 38, Figure 1, Column 4, Lines 7-67) for processing data of images captured by said first image capturing device as still images (still image obtained from image sensor 22, Figure 1, Column 4, Lines 55-58) and data of images captured by said second image capturing device as still images or moving images (image sensor 18 provides live resolution (motion-capable resolution), Column 2, Lines 50-60);

Art Unit: 2622

a first optical system receiving the first subject image light (imaging optical section 20, Figure 1, Column 2, Line 66 – Column 3, Line 2) and a second optical system receiving the second subject image light (viewfinder optical section 16, Figure 1, Column 2, Lines 50-65; Column 4, Lines 45-47);

said first optical system supplying image data to said first image capturing device (imaging optical section 20 supplies image data to the image sensor 22, Figure 1);

said second optical system supplying image data to said second image capturing device (viewfinder optical section 16 supplies image data to the image sensor 18, Figure 1).

Smith fails to specifically disclose said processing means correcting a parallax between said first optical system and said second optical system. However, StAlfors teaches a composite camera with automatic parallax correction, which discloses a paired photo camera 1 (film camera) and electronic camera 2 with parallel optical system in which the field of view of the electronic camera 2 is shown to overlap the field of view of the photo camera 1. The output of the electronic camera 2 is processed so that only that portion of the electronically captured image, which are located within border 32, corresponding to the film image (captured by photo camera 1) is transmitted to display 40, thereby correcting on the display for parallax between the parallel optical system (Figures 3-6, see abstract, Column 3, Lines 14-20, Column 4, Lines 10-27; Column 4, Line 65 - Column 6, Line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Smith by the teaching of StAlfors in order to obtain a camera which corrects parallax between the parallel optical system (Column 1, Lines 5-10).

Art Unit: 2622

Regarding claims 24, Smith discloses an image capturing apparatus comprising:

a first image capturing device (image sensor 22, figure 1, Column 2, Lines 60-67, Column 4, Lines 55-58);

a second image capturing device (image sensor 18, figure 1, Column 2, Lines 50-60) having a second characteristic (low resolution, Column 2, Lines 50-60, Column 4, lines 59-67) different from those of said first image capturing device (image sensor 22 is a full frame high resolution image sensor, Column 2, Lines 60-67);

a recording means for recording image data (image memory 40, Figure 1, Column 3, Lines 25-30, 52-65);

a processing means (microprocessor 52 and image data multiplexer 38, Figure 1, Column 4, Lines 7-67) for processing data of images captured by said first image capturing device as still images (still image obtained from image sensor 22, Figure 1, Column 4, Lines 55-58) and data of images captured by said second image capturing device as still images or moving images (image sensor 18 provides live resolution (motion-capable resolution), Column 2, Lines 50-60);

a first optical system receiving light along a first light path (imaging optical section 20, Figure 1, Column 2, Line 66 – Column 3, Line 2) and a second optical system receiving light along a second light path (viewfinder optical section 16, Figure 1, Column 2, Lines 50-65; Column 4, Lines 45-47);

said first optical system supplying image data to said first image capturing device (imaging optical section 20 supplies image data to the image sensor 22, Figure 1);

said second optical system supplying image data to said second image capturing device (viewfinder optical section 16 supplies image data to the image sensor 18, Figure 1).



Smith fails to specifically disclose said processing means correcting a parallax between said first optical system and said second optical system. However, StAlfors teaches a composite camera with automatic parallax correction, which discloses a paired photo camera 1 (film camera) and electronic camera 2 with parallel optical system in which the field of view of the electronic camera 2 is shown to overlap the field of view of the photo camera 1. The output of the electronic camera 2 is processed so that only that portion of the electronically captured image, which are located within border 32, corresponding to the film image (captured by photo camera 1) is transmitted to display 40, thereby correcting on the display for parallax between the parallel optical system (Figures 3-6, see abstract, Column 3, Lines 14-20, Column 4, Lines 10-27; Column 4, Line 65 - Column 6, Line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Smith by the teaching of StAlfors in order to obtain a camera which corrects parallax between the parallel optical system (Column 1, Lines 5-10).

Regarding claim 26, Smith discloses said first and second optical systems having lines of sight displaced a distance apart (imaging optical section 20 and viewfinder optical section 16 having optical paths 12 and 10, respectively, displaced a distance apart, Figure 1); and said processing means including means for adjusting at least one of a dimension and a lateral displacement of an image captured by one of said first and second image capturing devices to match an image captured by the other thereof (Column 6, Lines 14-55).

Regarding claim 27, Smith discloses wherein said first optical system and said second optical system supply the image data separately to said first image capturing device and said second image capturing device, respectively (Figures 1 and 2 show that imaging optical section 20 (first optical system) supplies image data to the image sensor 22 (first image capturing device); and viewfinder optical section 16 (second optical system) supplies image data to image sensor 18 (second image capturing device ); these two optical systems supply image data separately).

4. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US 5,926,218) in view of StAlfors (US 4,978,983) further in view of Rhodes (US 6,654,057).

Regarding claims 16-18, Smith and StAlfors fail to specifically disclose wherein said second image capturing means includes a CMOS-type solid image capturing device. However, Rhodes discloses the using of a CMOS imager for cameras (Column 1, Lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Smith and StAlfors by the teaching of Rhodes in order to obtain a camera, which has small size and low cost (Column 1, Line 55 – Column 2, Line 6).

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US 5,926,218) in view of StAlfors (US 4,978,983) further in view of Nonaka (US 5,986,764).

Regarding claim 25, Smith discloses said first and second optical systems having lines of sight displaced a distance apart (imaging optical section 20 and viewfinder optical section 16 having optical paths 12 and 10, respectively, displaced a distance apart, Figure 1).

Smith and StAlfors fail to specifically disclose the processing means including means for calculating a range to an object based on known parameters of said distance and a zoomed field angle. However, Nonaka discloses a distance measurement device to determine the distance  $L$  to the subject (a range to an object), which based on the distance  $B$  between two lenses (distance apart between the first and second optical systems) and  $f/x$  (zoom field angle) as shown in equation (1), Figure 1, Column 5, Lines 10-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kubo et al. and StAlfors by the teaching of Nonaka in order to determine the distance to a subject using its image (Column 1, Lines 5-7).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Compton et al. (US 5,787,313) discloses hybrid camera including viewfinder with masks for parallax correction and image format indication.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2622

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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05/14/06



**LUONG T. NGUYEN**  
**PATENT EXAMINER**